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ABSTRACT

A brief introduction to the field of psycholinguistics and its contributions to the development of a theoretical model of the reading process is presented. Selected elements of a psycholinguistic model of the reading process with a focus on the reader's use of linguistic cue systems are delineated. The concept of an efficient decoding strategy is advanced and the miscue analysis procedure is presented as a research method for the exploration of dialect speakers' decoding strategies. The conclusions of previous dialect miscue research in Hawaiian Islands Dialect are described and two recent miscue studies involving Hawaiian populations are summarized. Instructional implications based on dialect miscue research are advanced and a basic reading list in psycholinguistic theory and miscue analysis is provided. (Author)

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Recent Psycholinguistic Research in Reading And Hawaiian Islands Dialect

Paper presented at the International Reading Association Fourth Far West Regional Conference, Honolulu, Hawaii, July, 1976

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Abstract

A brief introduction to the field of psycholinguistics and its contributions to the development of a theoretical model of the reading process is presented. Selected elements of a psycholinguistic model of the reading process with a focus on the reader's use of linguistic cue systems are delineated. The concept of an efficient decoding strategy is advanced and the miscue analysis procedure is presented as a research method for the exploration of a dialect speakers' decoding strategies. The conclusions of previous dialect miscue research Hawaiian Islands Dialect are described and two recent miscue studies involving Hawaii populations are summarized. Instructional implications based on dialect miscue research are advanced and a basic reading list in psycholinguistic theory and miscue analysis is provided.

Preface

Rather than assume wide audience knowledge of psycholinguistics, miscue analysis research, and Hawaiian Islands Dialect features, a portion of this paper will be devoted to some basic concept development in those areas before commenting on the research. Some of this prerequisite material may prove to be an over-simplification of psycholinguistic theory to those well-versed in the field. To others, it may provide an aid to understanding later comments on the research. A basic reading list in psycholinguistics is provided in Appendix B.

Psycholinguistics

Definition

Psycholinguistics encompasses two broad fields of study, cognitive psychology and linguistics. There are numerous sub-divisions of investigation within the field of psycholinguistics such as human information processing, storage and retrieval, as well as studies of the characteristics of grammar, phonology, and semantics in language. Language phenomena, particularly acquisition and production, serve as common ground for the investigation of psycholinguistic behavior (Smith, 1973).

The Reading Process

The field of psycholinguistics has altered our perceptions of language and reading in some important ways. In particular, two major insights have influenced our understanding of the reading process (Smith, 1973).

The first major insight is that language, whether in print or spoken form, exists at two distinct levels. The surface structure of language preserves the grammatical form of an utterance or written message -- the deep structure contains the potential for meaningful interpretation by a listener or reader.

An important qualification to understand is that there exists no one-to-one correspondence between surface and deep structure components of langugae. That is, one cannot "map"

directly from the surface structure presentation to meaning. For example, the statement "flying planes can be dangerous" (Smith, 1975) appears to be ambiguous, at least on a second reading, and apart from any apparent contextual contraints. How were you able to resolve that ambiguity? The second major insight from psycholinguistics provides an answer.

The apprehension of meaning from an utterance or written message is a creative act, rooted in prior experience and language knowledge. Thus your initial assignment of meaning to the "flying planes" example is a reconstruction of that seemingly ambiguous sentence according to your view of the world.

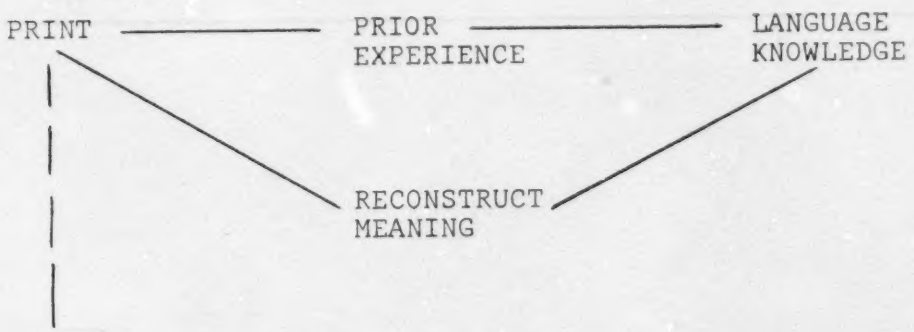
Let's say for example, that you live in a neighborhood that is adjacent to a metropolitan airport and your child's school playground sits on the end of a 747 landing strip! The context of your prior experience provides a clear route through the ambiguity that might otherwise reside in the "flying planes" example.

These two important insights about language have influenced our view of the reading process. Over the last 10 to 15 years, K. Goodman and his associates have been testing and refining a psycholinguistic model that reflects the way in which a reader is able to reconstruct meaning from print (K. Goodman, 1976). Goodman's model presents reading as a highly dynamic process. The profusion of verbs in his model

reflect a view of reading as ongoing hypothesis testing behavior. The reader actively "samples, predicts, tests, and confirms" meaning from print in terms of his own experiences, expectations, and native language (K. Goodman, 1972).

Linguistic Cue Systems in Print

According to K. Goodman (1973), print offers the reader three cue systems that may operate simultaneously in the reconstruction of meaning. A graphic representation of the global elements in K. Goodman's model with a focus on the three linguistic cue systems looks like this (Searfoss, 1976).



CUE SYSTEMS:

1. GRAPHOPHONIC, e.g. "Cat"----------/Kăt/
2. SYNTACTIC, e.g. "The cat ____ the mouse."
3. SEMANTIC, e.g. "When the family returned to Hawaii from their African safari, they knew the large cat they'd brought back would have to be donated to the Honolulu zoo."

It is important to note that cue systems are used by the reader with varying degrees of emphasis. The volume of graphophonic information necessary for example, will depend on the reader's conceptual background and prior experience with print. Accurate use of all available cues -- that is, words, letters within words, and so on, would be inefficient and overload the limited capacity of short terms memory for information storage. For example, an overemphasis on the application of phonic principles to every unfamiliar word would deter the reader from applying available context in his effort to make sense out of print. Thus a fluent reader is one who uses a minimal amount of graphophonic information and occassionally departs from exact correspondence to the text in his pursuit of meaning.

Decoding Strategies

The reader's efficient use of the three available cue systems in print rests on his application of decoding strategies. In this sense, the term "decoding" means the translation of written or spoken messages to meaning (Hodges and Rudorf, 1972) in contrast to the process of encoding print to speech (e.g. cat to /kăt/). Decoding strategies then, are those processes, either learned or intuitive, a reader applies to the three linguistic cue systems available in print to arrive at meaning. For example, a reader encountering the

unfamiliar word "trough" in a story about a zoo, may give it his best graphophonic "shot" and substitute the word "through." But in running context, "The animals crowded around the water trough," the word "through" doesn't make sense syntactically or semantically. The reader's initial strategy failed so he regresses and self-corrects which would constitute an effective decoding strategy. This example leads us to the next concept integral to psycholinguistic research in reading--miscues.

A miscue in oral reading is an observed response (OR) which deviates from the text or expected response (ER) and is subject to a qualitative analysis that centers on the degree to which a miscue results in a loss of meaning. This procedure is in marked contrast to the traditional error counting associated with most oral reading inventories.

Miscue Analysis

Miscue analysis is a structured observation, description, and evaluation of a reader's decoding strategies and comprehension in terms of his use of linguistic cue systems in oral reading. The Reading Miscue Inventory (Y. Goodman and Burke, 1972) is a research tool that guides this procedure.

The subject reads orally a story challenging enough to generate miscues. The examiner informs the subject that no assistance can be offered during the reading. The reader

must apply all his decoding strategies, or, if this becomes impossible, he must skip the word and go on. The oral reading is audio taped for later confirmation and evaluation of the miscues.

The miscue or observed response is then coded on scoring sheets and examined in contrast to the expected response from the text. Responses can be examined for possible dialect involvement in this way. Nine questions relating to the subject's application of available language cue systems are asked. The degree of similarity and acceptability of the miscue is then determined and transfered to a graphic profile representing the subject's strengths and weaknesses. An audio taped oral retelling of the selection affords an assessment of comprehension. The following are illustrative examples of a portion of the coding process in miscue analysis (Bean, 1976).

1. GRAPHIC-SIMILARITY:

READER (OR)	TEXT (ER)	CODING
walk	walked	high
function	fission	partial
tin	deep	none

2. SOUND SIMILARITY:

walk	walked	high
function	fission	partial
tin	deep	none

3. SYNTACTIC ACCEPTABILITY:

READER (OR): "He jumped off the platform."

TEXT (ER): "He leaped off the platform."

CODING: High Acceptability

vs.

READER (OR): "She fell as in the afternoon."

TEXT (ER): "She fell asleep in the afternoon."

CODING: No Syntactic Acceptability

4. SEMANTIC ACCEPTABILITY:

READER (OR): "The flashlight cut a path through the darkness."

TEXT (ER): "The flashlight carved a path through the darkness."

CODING: High Acceptability

vs.

READER (OR): "The large block barked loudly for his food."

TEXT (ER): "The large dog barked loudly for his food."

CODING: No Semantic Acceptability

Dialect and Reading

A persistent research question during the mid-1960's was, "does a nonstandard English dialect inferfere with learning to read?" A number of researchers, including K. Goodman (1965), advanced the hypothesis that a mismatch between the beginning reader's dialect and the instructional materials

may inhibit learning to read. Instructional alternatives for the dialect speaker were posed and evaluated. Many of K. Goodman's insights about the reading process were an outgrowth of this turmoil and his subsequent observations of the oral reading behavior of Black Dialect speakers (K. Goodman and Burke, 1973). The over-whelming conclusion of the vast body of dialect and miscue research was that nonstandard variations of English did not interfere with learning to read.

Current Focus of Miscue Research

Now that the dialect interference hypothesis has been thoroughly investigated, the movement is toward a cross-cultural perspective in miscue research that seeks to establish universal characteristics of the reading process. The emphasis is now on description, comparison, and the construction of a data bank similar to other areas of scientific investigation. The two most current miscue studies of Hawaii populations (Bean, 1976; Young, 1974) fall into this category. Both studies comprise baseline descriptive investigations of the reading strategies of Hawaiian Islands Dialect (HID) speakers.

Hawaiian Islands Dialect

A dialect is a variety of language peculiar to a homogeneous language community. The term "dialect" suggests that

a particular language has progressed through the creole and earlier pidgin stages of a trade language. Unlike a pidgin, a dialect does have native speakers and is characterized by an expanded grammar and lexicon. Structural linguists (Crowley and Petersen, 1966) have provided us with contrastive descriptions of the features of HID and selected examples are presented here.

PHONOLOGY

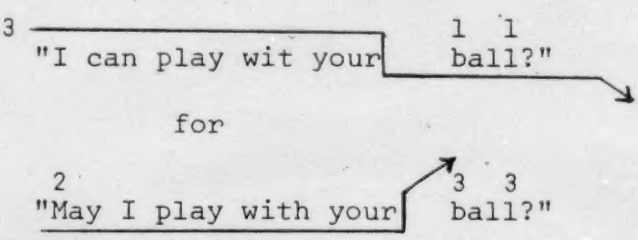
SELECTED FEATURES OF HAWAIIAN ISLANDS DIALECT

PHONOLOGY

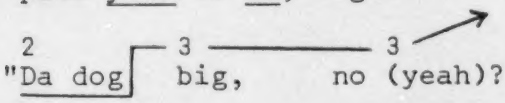
1. Says /d/ for /th/, e.g. dis for this
2. Says /a/ for final /r/, e.g. teacha for teacher
3. Says /u/ for /U/ or $\bar{OO}$ for 00, e.g.
   book for book -- $p\bar{oo}sh$ for push
4. Says /i/ for /I/, e.g. geeve for give
   pen for pin

INTONATION

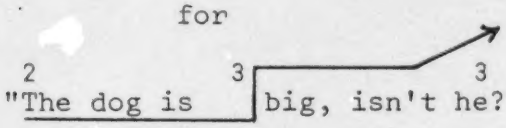
1. Formulates questions with falling intonation, e.g.:



2. Formulates questions by making a statement plus yeah or no, e.g.:



for



VOCABULARY

1. Says like for want, e.g. "I like see you."
2. Says try for please, e.g. "Try open da door."

GRAMMAR

1. Verbs: copula deletion in present tense, e.g.

" I hungry." for "I am hungry."

1a. Forms present progressive using auxiliary stay, e.g.:

"I stay eat." for "I am eating."

1b. Forms past and past perfect using auxiliaries wen or been, e.g.:

"I wen (or been) play football."

for

"I played football."

2. Prepositions: Omits of, e.g.

"I like one scoop ice cream."

3. Negatives: Says no for not, e.g.

"I no scared." for "I'm not scared."

Recent Miscue Research in Hawaiian Islands Dialect

Young (1974) was concerned with identifying HID features as they occurred in the oral reading of Hawaii children in grades one through six who were average readers. He also sought to infer their word recognition (i.e. word attack) strategies and to trace developmental trends through succeeding grade levels in both dialect and word recognition.

Using a modified RMI that examined only substitutions and combined syntactic and semantic acceptability into a single category, Young found that the children in his study exhibited few HID miscues in their oral reading. Their HID miscues were confined to phonological variations such as pronouncing /d/ for /th/ and reducing final consonant clusters as in /des/ for /desk/. In any case, dialect miscues did not interfere with meaning. The subjects in grade six made more dialect miscues than their younger peers. In word recognition, the subjects in the lower grades relied more heavily on graphic cues, largely at the expense of syntactic and semantic information or passage context.

The purpose of the Bean (1976) study was to statistically and qualitatively analyze and compare the decoding strategies employed by average and below average readers in grades four, five, and six who were identified as proficient speakers of HID.

The two research questions were:

Q^1 Are there any significant differences in the decoding strategies used between average and below average readers among grades four, five and six who are speakers of Hawaiian Islands Dialect?

Q^2 Are there any significant differences among succeeding grade levels in the decoding strategies used by average and below average readers in grades four, five, and six who are speakers of HID?

In order to explore these questions, 50 selected subjects in Keaukaha School on the Big Island of Hawaii were administered the complete RMI and the first 50 consecutive miscues were analyzed. The accumulated data were examined by means of multivariate analysis of variance (MANOVA).

The multivariate analysis revealed that there were statistically significant differences in the decoding strategies employed by these subjects. Specifically, fourth graders relied more heavily on graphophonic cues in their decoding than either fifth or sixth graders. Sixth graders were more adept at applying semantic cues in their decoding strategies than either fourth or fifth graders. Average readers across grades made greater use of syntactic and semantic information than their below average peers.

Retelling scores differed across the three grade levels. As a group, sixth graders attained higher retelling scores than either fourth or fifth graders. However, in some cases below average readers in fifth and sixth grades attained higher retelling scores than their average peers. This discrepancy casts some doubt on the classification of a student's reading behavior based on the narrow sample obtained with a standardized reading test.

Although dialect was not a statistically significant factor, the HID miscues exhibited by these subjects further confirmed the finding that dialect does not interfere with oral reading and comprehension. Dialect miscues in this study were predominantly phonological in nature (e.g. /wit/ for /with/), and semantically acceptable in all cases. HID miscues were rarely consistent. That is, a subject might pronounce /trū/ for / through/ in one sentence, and then pronounce it in its standard English form on its next appearance.

Average readers exhibited a greater percentage of HID miscues than their below average peers in all three grades. Sixth graders as a group manifested a greater percentage of HID miscues than either fourth or fifth graders.

Subjects in the present study revealed more HID features in their oral retellings than in the actual reading of selections. These readers subscribed closely to the structure of

the author's writing while making occassional, yet inconsistent shifts to HID phonology.

A brief sample of a portion of a reader's oral decoding strategies and retelling transcript is provided in Appendix A to give you a better picture of the miscue analysis procedure.

Implications and Conclusions

It should be clear at this point that dialect need not be a major concern in beginning reading instruction. Rather, the development of a beginning reader's decoding strategies must be at the forefront of instructional planning. Miscue research is currently addressing itself to the problem of enhancing a beginning reader's use of the full range of linguistic cues available in print. A number of miscue short forms (Burke, 1974; Tortelli, 1976) are available to the classroom teacher and a wealth of reading strategy lessons, designed to supplement existing reading programs can be found in current reading journals and literature.

Qualitative miscue evaluations of childrens' actual reading behavior can provide the classroom teacher with a framework for the prescription of individual strategy lessons aimed at assisting the beginning reader in his natural effort to reconstruct meaning from print.

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Appendix A

WHY THE PARROT REPEATS MAN'S WORDS

Below Avg. Reader, 6.0

3701 In ancient times it was not the parrot which

3702 was taught to speak, but the lorikeet. For people had found that this small bird was intelligent. If he heard a word he could repeat it easily. Not only that, he often spoke his own thoughts, instead of merely imitating the sounds he heard.

Then all this changed.

One day, a farmer saw a buffalo in his rice field. It was his neighbor's buffalo, but he killed it, ate some of the meat, and the remainder he hid. Part of the meat he hid on the top of the rice house. The rest he hid in the rice bin.

TOTAL MISCUES ON STORY: 60

Range = 50 to 173

HID MISCUES PER 50 CODED: 24%

RETELLING TRANSCRIPTION OF WHY THE PARROT ...

Grade 6.0 Below Average Reader

S: Da guy seen da buffalo in da yard, so he wen kill em...so da...he wen put some of da meat on top da rice bin and some of om on top da house. Den da next day da neighbor came over looking for his buffalo...said, "Where da buffalo stay?" So, he said he never see one buffalo but da Lorikeet said he wen put some of da meat on da rice bin and some of om on da house. So he said "Who you believe, da Parrot or da man's word?" So he wen take da ting to court, den dat night he wen take da Lorikeet and put em inside one pot...one dark pot...den he wen put one cloth over da ting for make em more dark. Dat night da moon was bright and was a nice night. Den, he was putting...he was pounding da pot...softly and den he was making em harder and loud like tunder. Den he was dropping some of da water on top of da pot and he was making em as eef da ting was thu n der and rain and had big winds. So, next day he said... wen dey went to court...da Lorikeet said where da meat was, but he said, "Who's word do you take -- da bird's word or his word?" Da Lorikeet says

nonsense, den da Judge ask da Lorikeet what kind of a night it was...den it said...it was a rainy and stormy night...and windy. So they let da man free...and said da Lorikeet's life was in danger. Den dey took da Lorikeet back into da forest, and nobody liked da Lorikeet. So dey...den he met da Parrot...den, he said to da Parrot...don't...da Parrot said he came from da South...den he told da Parrot what happened. Den, a couple of years or centuries went by, dey caught da Parrot and dey took it in man's home and dey kept da Parrot and fed da Parrot and cared for it.

T: So what did the Lorikeet tell the Parrot?

S: He said, no listen to da man...no go wit da man...but, he went...

Appendix B

READING LIST

THEORETICAL RATIONALE FOR MISCUE ANALYSIS

Allen, P. D. and Watson, D. J. Findings of Research in Miscue Analysis: Classroom Implications. Urbana: ERIC Clearinghouse on Reading and Communication Skills, 1976, 57-70.

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Hodges, R. E. and Rudorf, E. H. Language and Learning to Read: What Teachers Should Know About Language.

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#1.

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#4.

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#3.

Smith, F. Comprehension and Learning. New York: Holt, Rinehart and Winston, Inc., 1975.

#5.

CLASSROOM APPLICATION OF MISCUE ANALYSIS

Goodman, K. S. (Ed) Miscue Analysis: Applications to Reading Instruction. Urbana: ERIC Clearinghouse on Reading and Communication Skills, NCTE, 1111 Kenyon Road, Urbana, Illinois, 61801, 1974.

#2.

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#1.

READING LIST CONT'D.

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#4.

Page, W. D. Help for the Reading Teacher: New Directions in Research. ERIC Clearinghouse on Reading and Communication Skills, 1111 Kenyon Road, Urbana, Illinois, 61801, 1974.

#3.

NOTE: *# indicates a suggested order of reading in these sources.